

Formal Assessment of the Climate Economics Chair, 2024-2025

The CEC Scientific Committee applauds the Climate Economics Chair for conducting insightful research on carbon pricing and low-carbon innovation, the impacts of climate change on agriculture and forests, and the energy transition. We summarize some of the important questions that these programs have addressed during the past year and the insights they have provided. We also commend the CEC on the impact it is having on climate policy, through its publications, other forms of outreach, and the placement of its Ph.D. students. The Scientific Committee concludes that the CEC has conducted work of excellent quality during the past year, as it has in previous years.

Selected Research Accomplishments

Carbon Pricing and Low Carbon Innovation

- Will the EU-ETS undermine the competitiveness of European companies? CEC research suggests that so far there is no empirical evidence of a loss of performance by European firms attributable to carbon pricing. Weakening the Carbon Border adjustment mechanism is, however, not advisable and would jeopardize decarbonization in Europe.
- How will Europe trigger low carbon investment to achieve the goal of net zero by 2050? CEC researchers have found that long term Power Purchase Agreements may not be the silver bullet to encourage low carbon investments due to their irreversibility. Furthermore, companies that hold the most low-carbon patents are not necessarily best at pushing the technology frontier.

Impact of Climate Change on Agriculture and Forests

- How can the credibility and impact of carbon credits be strengthened? CEC researchers have suggested using quasi-experimental econometric methods to evaluate the performance of carbon credit programs, although this will increase risks to program implementers. It will strengthen carbon credit markets if buyers are willing to pay for higher quality.
- What is the impact of droughts on income inequality in Sub-Saharan Africa? How can households adapt? CEC researchers have shown that droughts have increased income inequality in Malawi and Ethiopia. Migration presents a possible adaptation strategy, but barriers to mobility exist. Artisanal gold mining represents a maladaptation strategy, leading to urbanization with low living standards.

Energy Transitions

- What sources of flexibility in power markets are most likely to increase the penetration of renewable energy sources? Studies by CEC researchers have found that consumers are responsive to time-differentiated retail prices, which can provide an important source of flexibility. Subsidies to hydrogen electrolysis can also help reshape Europe's energy security. Nuclear operational flexibility can provide value under high renewable conditions.
- What is likely success of Sustainable Aviation Fuels (SAF) as a method of decarbonizing the aviation sector? CEC researchers have found that the cost and sustainability of SAF technologies faces important constraints, including feedstock availability. International trade in waste-based biofuels also raises concerns about certification integrity and unfair competition. Ambitious roadmaps for SAF are over-promising decarbonization if they overlook these constraints.

Publications and Outreach

During 2024-2025 researchers at the CEC published 58 peer-reviewed journal articles, including articles in *Nature Sustainability*, *Energy Economics*, *Ecological Economics*, *Environmental Research Letters* and other journals with high impact factors. Peer-reviewed publications are essential for the scientific credibility of the CEC's work. The CEC has also promoted its work through 12 television interviews; 6 radio interviews and 34 opinion pieces in the written press.

Ph.D. Placement

A major impact of the CEC on climate and environmental policy is through the placement of its graduates. Approximately one-third are faculty at Universities, including Tilburg University, the Paris School of Economics, Montpellier University and AgroParis Tech. Thirty percent are employed at public institutions or public companies (OECD; Ministère Chargé de la Mer et de la Pêche; FEEM; Ministère de la Transition écologique). Approximately one quarter work at private companies, including EDF, ECOACT France and Square Management. The diversity of careers pursued by CEC students is testimony to the breadth of CEC research, recognition of its policy importance, and its appreciation by a broad group of stakeholders.

Sincerely,



Maureen L. Cropper

President, CEC Scientific Committee